DOE G 460.2-1

11-15-96

G

IMPLEMENTATION GUIDE

for Use with

DOE O 460.2, DEPARTMENTAL MATERIALS TRANSPORTATION AND PACAKAGING MANAGEMENT

ASSISTANT SECRETARY FOR ENVIRONMENTAL MANAGEMENT

FINAL GUIDE - FOR UNLIMITED USE AND DISTRIBUTION

TABLE OF CONTENTS

FOREWORD iv

1. INTRODUCTION 1
1.1 General 1

1.2 Application 1

1.3 Implementation 2

2. GENERAL INFORMATION 2
2.1 Compliance 2

2.2 Training 2

2.3 Procedures 2

2.4 Records Maintenance/Management 3

3. SHIPMENT PROCEDURES 3
3.1 Outbound 3
3.1.1 Shipment Preparation 3
3.1.2 Shipping Documents 3
3.1.3 Selection of Mode and Carrier 4
3.1.4 Consolidation of Shipments 4
3.1.5 Self-insurance and Declared Value 4
3.1.6 Procedures for Notification of States and Tribes 4
3.1.7 Internal Notification for Shipment and Nonreceipt of Radioactive and Other Hazardous Materials 5
3.1.8 TRANSCOM 6
3.1.9 Loading Methods and Tiedown Requirements 6
3.1.10 Demurrage and Detention 6

3.2 Inbound 7
3.2.1 Inspection upon Receipt 7
3.2.2 Reporting of Contamination Occurrences 7
3.2.3 Non-DOE, Nonregulatory Compliant Packages on a Transport Vehicle at a DOE Consignee Site 7
3.2.4 Customs Clearance of Import/Export Shipments 7

4. AUTOMATED TRANSPORTATION MANAGEMENT PROGRAMS 8
4.1 Automated Transportation Management Systems 8

4.2 The Shipment Mobility/Accountability Collection System 8

4.3 Routine DOE Transportation Reports 8
4.3.1 SMAC Participants 8
4.3.2 Annual Transportation Report 8
4.3.3 Periodic Reports 10

5. TRANSPORTATION RATES AND SERVICES 10
5.1 Field Rate Negotiation 10

5.2 Declaring Maximum Value 11

5.3 Declaring Full Value 11

5.4 Evaluation of Carriers 11

5.5 Premium Transportation 11

5.6 Support of Carrier Requests/Petitions 12

6. PACKAGING 12

6.1 Records 12

6.2 13
6.2.1 Existing Packagings 13
6.2.2 New Packaging 14
6.2.3 Excess Packagings 14

6.3 Packaging Development 14

7. EXPLOSIVES 14

8. ACCIDENT/INCIDENT REPORTING 14
8.1 Contractor Use of Common Carrier(s) 14

8.2 DOE Contractor as Private Carrier 15

9. TRANSPORTATION COMPLIANCE EVALUATION/ASSISTANCE PROGRAM (TCEAP) 15
9.1 Technical Evaluations 15
9.1.1 Technical Evaluation Teams 15
9.1.2 Standard Evaluation Criteria 15
9.1.3 Evaluation Scheduling 15
9.1.4 Evaluation Procedures 15

9.2 Technical Assistance Services 16
9.2.1 Conduct Root Cause Analysis 16
9.2.2 Develop Corrective Action Plan 16
9.2.3 Identify Needed Resources 16
9.2.4 Provide Lessons Learned Document 16

10. CARGO SECURITY AND HIGH-VALUE MATERIALS 17
10.1 High-Value Material and Cargo Security 17

10.2 Provision of Protective Services 17

10.3 Contingency Information 17

10.4 Packaging and Transporting of Non-Contaminated Precious Metals 17
10.4.1 Shipping Uncontaminated Precious Metals 17
10.4.2 Precious Metals Transport 18

10.5 Endorsement on Bills of Lading for Rail Shipments 19

11. REFERENCES 19
11.1 Sources of Material Transportation Regulations 20

11.2 General Transportation Acts and Regulations 22

11.3 Other Related Reference Material 23

11.4 Non-Government Standards Bodies 24

12. DEFINITIONS 25

FOREWORD

This Department of Energy (DOE) Guide is approved for use by the Office of Transportation, Emergency Management, and Analytical Services (EM-76) and is available for use by all DOE Elements and DOE contractors.

Comments (recommendations, additions, deletions, or any pertinent data) that may improve this document should be sent to:

Office of Transportation, Emergency Management
and Analytical Services (EM-76)
OFFICE OF SITE OPERATIONS
Cloverleaf Building
U.S. Department of Energy
19901 Germantown Road
Germantown, MD 20874-1290

DEPARTMENTAL MATERIALS TRANSPORTATION AND PACKAGING MANAGEMENT GUIDE

1. INTRODUCTION

1.1 General

Department of Energy (DOE) Order (O) 460.2, DEPARTMENTAL MATERIALS TRANSPORTATION AND PACKAGING MANAGEMENT, was developed to establish operational requirements for managing the Department's materials transportation and packaging functions. Over the years, these functions have played key roles in the managing and operation of Departmental production programs.

Because Department mission and policies have changed during recent years, transportation and packaging functions have also changed. Instead of concentrating on production programs and operations, the transportation and packaging efforts now concentrate primarily on waste removal and environmental restoration.

Transportation of DOE materials over the nation's highways, railways, and waterways provides the Department maximum interface with the general public, stakeholders, and representatives of States, Tribes, and other local government organizations. Although these groups are concerned about releases, spills, and contaminations of hazardous materials (including radioactive materials) occurring at a DOE or DOE contractor facility, their primary concerns are directed at the shipment of these materials through states, cities, and neighborhoods.

The purpose of this document is to assist those responsible for transporting and packaging Department materials, and to provide an understanding of Department policies on activities which supplement regulatory requirements.

1.2 Application

Requirements of DOE O 460.2 applies to all DOE Elements, as the associated Contractor Requirements Document (CRD) applies to all contractors providing operational transportation and packaging management services for, or on behalf of, the Department. Though much attention is focused on hazardous material shipments initiated by the Department and DOE contractors, this Order also applies to the considerable volumes of general freight shipped routinely throughout the DOE complex. The cross-cutting bases of Transportation makes guide as applicable to crude oil, pipeline pumps, coal, building materials, and gasoline as it is to spent fuel, high- and low-level radioactive waste.

1.3 Implementation

The change in Department mission, policies, and priorities necessitates adjustments and changes to operational guidance provided to DOE Field Elements and DOE contractors for transportation and packaging management. Requirements and guidance provided in DOE O 1540.1A, MATERIALS TRANSPORTATION AND TRAFFIC MANAGEMENT, originally issued in 1983, required modification to reflect current DOE priorities and policies. The new DOE O 460.2, issued September 30, 1995, and this Guide, should enhance the ability of DOE and DOE contractor shippers to perform their functions in a safe, efficient, and economical manner. This is done in concert with current priorities and policies, and in full compliance with applicable laws and regulations.

2. GENERAL INFORMATION

2.1 Compliance

It is Department policy that DOE Field Elements and DOE contractors must comply with applicable regulations to ensure safe, cost-effective, efficient transportation of DOE materials. DOE has developed additional tools, such as the Transportation Operations Manual and the Transportation Facilities Guide, to provide basic transportation operations guidance and to assist with compliance.

2.2 Training

Department of Transportation (DOT) Hazardous Materials Regulations state that a hazardous materials employee must be trained. Contractors should be knowledgeable, and must be trained, in order to comply with applicable requirements. DOE sponsors training courses to provide a uniform and consistent approach to complying with regulations governing transportation and packaging. Training schedules may be obtained from FaxBack, the Internet, or EM-76. This training assists DOE and contractor employees in meeting DOE policy and ensures compliance with DOT requirements that shippers and carriers of hazardous materials train personnel commensurate with their responsibilities.

2.3 Procedures

Procedures should be developed to identify and define roles and responsibilities, to address regulations, to process information flow, to explain requirements, to address the Lessons Learned Program, and other activities as appropriate. For the purposes of DOE O 460.2, procedures should be written to address rate and rule negotiations, household goods movements, shipment of hazardous materials, requirements for specialized moves, obtaining waivers/exemptions, and other activities identified, or required, as site specific.

2.4 Records Maintenance/Management

The requirement for records creation and maintenance, adequate documentation, and proper records disposition of certain DOE records can be found in DOE O 1324.5B, RECORDS MANAGEMENT PROGRAM. Contractors should refer to this Order for records management activities.

3. SHIPMENT PROCEDURES

3.1 Outbound

3.1.1 Shipment Preparation

All hazardous materials shipments shall be properly packaged, marked, and labeled to meet requirements of normal transport.

3.1.2 Shipping Documents

a. The originator of any shipment should provide the designated contractor transportation representative with necessary documents indicating:

(1) material description;

(2) how it is packaged;

(3) number of packages;

(4) destination and recipient;

(5) a statement of any urgency (if more than routine handling is being requested); and

(6) any special additional information (i.e., handling requirements, and those items listed in Section 6.2, Packaging Records).

b. A shipment containing hazardous material, shall be certified that it is properly packaged, marked, labeled, described and in proper condition for transport under the applicable hazardous materials transportation regulations.

c. For freight payment purposes, proper classification of DOE materials for each shipment shall be described on the bill of lading, waste manifest, or other shipping documents as specified in the governing freight classification, carrier's tariff, or rate

tender. Broad descriptions which are not provided in tariffs (such as "government supplies") should not be used. Accuracy and completeness are essential.

3.1.3 Selection of Mode and Carrier

Mode of carriage (rail, highway, air, or water) and carrier should be selected to meet requirements of each shipment and provide safe, expeditious, and economical delivery to destination. For Highway Route Controlled Quantities (HRCQ) of radioactive materials in less-than-truckload (LTL) or truckload (TL), any TL quantities of radioactive material, and hazardous waste in any quantity, only carriers with satisfactory ratings under the Department's Motor Carrier Evaluation Program should be considered.

3.1.4 Consolidation of Shipments

Shipments should be consolidated into larger shipping quantities or units whenever such arrangements will result in transportation or administrative economies. In determining if separate shipments may be advantageously consolidated, consideration should be given to established stop-off privileges for partial loading or unloading at intermediate locations, inclusion of small lots in the same car or trailer with carload or truckload quantities, possibly using freight forwarder services, and environment, safety and health implications. Opportunities for consolidation between the various field organizations should be considered.

3.1.5 Self-insurance and Declared Value

Consistent with the Government's self-insurance policy, 41 CFR 1-19.107, funds should not be expended to insure property against loss, damage, or destruction while in transit. When the governing tariff limits carrier liability to a value per pound or a value per shipment and provides an additional charge for shipments exceeding that value, the DOE shipper should declare the highest value the carrier will honor without additional charge or enter "no value declared" (NVD) if the limiting value is unknown.

3.1.6 Procedures for Notification of States and Tribes (Spent Fuel or High-Level Waste Shipments)

a. General Requirements. A list of mailing addresses of Governors or Governors' designees has been provided to the Manager of each operations office. Updates of this list are published each year in the June 30 issue of the Federal Register which is available through Internet. Contractors unable to obtain the latest Federal Register listing locally or electronically should contact EM-76. Information is also available from EM-76 on Tribal contacts for notification purposes.

b. Information Requested. States and Tribes will expect written notification seven (7) days prior to the first shipment which will include the following information:

(1) name, address, and telephone number of shipper, carrier, and receiver;

(2) description of the shipment as specified by the DOT in 49 CFR, Parts 172.202 and 172.203;

(3) a listing of routes to be used within the State or through Tribal jurisdictions;

(4) estimated date and time of departure from point of origin;

(5) estimated date and time of entry into the Governor's State and/or into Tribal lands;

(6) estimated date and time of departure from the Governor's State and/or tribal jurisdiction (when the destination is not within the State); and,

c. Cancellation. Notice of cancellation of a spent-fuel shipment can be made by telephone to each State and/or Tribe affected. No written notice of cancellation need be made to States or Tribes.

3.1.7 Internal Notification for Shipment and Nonreceipt of Radioactive and Other Hazardous Materials

To minimize the number of shipments that could ultimately be considered lost, the following procedures should be implemented:

a. Nonreceipt of Shipment. Notification by the consignor to the consignee, should be by telephone, facsimile, or other electronic means within three working days after the scheduled arrival date, followed by receipted registered mail to provide a written notice for the shipper's file.

b. Unrecovered Shipments. Lost or stolen shipments that are not recovered or accounted for should be reported to the Field Element Transportation Manager as an unusual occurrence in accordance with DOE O 232.2, OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION. The cognizant Field Element head should determine if an investigation is warranted and advise The Office of Safety and Quality Assurance (EH-30*)* of the decision at the time of the unusual occurrence report.

c. Reporting of Contamination Occurrences. The DOE consignor should request a copy of the carrier's report to DOT. Upon receipt of the carrier's report, the DOE consignor should forward a copy to EM-76 and to EH-30.

d. Radioactive Materials. For all radioactive material*s,* shipments exceeding an excepted quantity, a return receipt should be requested. The shipper should follow up on shipment status if the return receipt is not received within 1 week following the expected delivery date.

3.1.8 TRANSCOM

a. Authorized users such as DOE shipping/receiving facilities, Emergency Operations Centers, States, Tribal jurisdictions, and governmental agencies, may access the system maintained at the Transportation Tracking and Communication System (TRANSCOM) Control Center (TCC) and receive shipment location information and other data.

b. Anyone requesting use of the TRANSCOM system to monitor a materials shipment should apply, in writing, to EM-76 for authorization. When a shipment qualifies for TRANSCOM services, the requestor will receive notification from EM-76. Anyone wishing to become an authorized user and obtain information directly from TRANSCOM will be approved by EM-76 and be trained in use of the system.

c. The document, "Guidelines to Ensure Proper Tracking and Communications for DOE Shipments Requiring the Use of the TRANSCOM System," identifies measures to enhance safe, effective transport of shipments and facilitate communication of DOE transportation activities to appropriate stakeholders. This document is provided to authorized TRANSCOM users.

3.1.9 Loading Methods and Tiedown Requirements

All DOE shippers should ensure adequate loading, blocking, bracing, and securement of freight loaded on or in a transport vehicle in accordance with prescribed DOE or DOT requirements and where rates are predicated on "shipper's load and count." Though tiedown and loading are normally the responsibility of the carrier, if any shipment is not of a size and shape that can be loaded by personnel supplied by the carrier, the DOE consignor should assist, as appropriate, in positioning the freight on or into the vehicle as directed by the carrier representative.

3.1.10 Demurrage and Detention

To ensure prompt release of carrier equipment (particularly special capacity, heavy-duty, or other equipment in short supply), and to avoid demurrage and detention charges, load, unload,

and release freight equipment within the prescribed free time. Rail "average demurrage agreements" should be considered when the volume of rail traffic justifies such an arrangement.

3.2 Inbound

3.2.1 Inspection upon Receipt

All packages should be inspected promptly upon receipt for damage or other evidence of possible leakage to ensure that any potential public exposure to hazardous materials will be identified and appropriate action can be taken and to expedite processing of loss and damage claims. All shipments of materials received should be inspected, if practicable, before the delivering conveyance departs. When the DOE consignee picks up the shipment from the carrier's terminal facility, following notification by the carrier of its arrival, the packages should be picked up as expeditiously as possible and checked for damage and leakage. In every case, visible damage should be photographed immediately. Visible damage must be noted on the carrier's delivery receipt prior to signing for receipt of goods. All visible damage should be reported to the delivering carrier by telephone or facsimile transmission the same day. All goods must be inspected for concealed damage and the carrier notified within fifteen (15) days of receipt to ensure the carrier retains the burden of proof for claim settlements.

3.2.2 Reporting of Contamination Occurrences

The DOE consignee should request a copy of the carrier's report from DOT. Upon receipt of the carrier's report, the DOE consignee should forward a copy to EM-76 and to EH-30.

3.2.3 Non-DOE, Nonregulatory Compliant Packages on a Transport Vehicle at a DOE Consignee Site

If any leaking package of regulated materials are encountered on a transport vehicle, the DOE contractor should delay the transport vehicle, notify the cognizant carrier terminal, and assist the carrier in mitigating public and environmental exposure. DOE Field Elements or contractors should not let the carrier's equipment with noncompliant conditions to depart a DOE facility without mitigation of the noncompliance. The DOE contractor should then collect the cost of such assistance from the carrier as appropriate.

3.2.4 Import/Export Shipments

Imports and exports should be coordinated with the responsible Field Element Transportation Manager and interfaced with appropriate U.S. Customs office, as necessary. The export of possibly restricted or sensitive materials and documentation must be approved and/or

coordinated with the Nuclear Regulatory Commission, Department of Commerce, and the Department of State, as appropriate.

4. AUTOMATED TRANSPORTATION MANAGEMENT PROGRAMS

4.1 Automated Transportation Management Systems

For detailed information on, and access to, the Automated Transportation Management System (ATMS), refer to the Transportation Operations Manual, Functional Requirements for the ATMS Document, and/or contact EM-76.

4.2 The Shipment Mobility/Accountability Collection System

The Shipment Mobility/Accountability Collection system (SMAC) accumulates transportation data for Departmental activities. It is a valuable transportation tool for Headquarters, Field Elements, and contractors. SMAC data is used in risk analysis studies, rate negotiations, replying to Congressional and Freedom of Information inquiries, and in the development of routing models for DOE hazardous and radioactive materials shipments.

4.3 Routine DOE Transportation Reports

Certain routine DOE transportation reports have been authorized by the Office of Management and Budget under requirements of 5 CFR, Part 1320. In addition to these routine reports, EM-76 may request one-time reports on an ad hoc basis. Routine reports approved for collection from all DOE Headquarters offices, Field Elements, and their operating contractors are as follows.

- SMAC Reports

- Annual Transportation Reports

4.3.1 SMAC Participants

Detailed specifications on data requirements are identified in the "User's Guide for the Shipment Mobility/Accountability Collection" which is provided to SMAC participants.

4.3.2 Annual Transportation Report

For those elements that are excepted from SMAC reporting, an annual report should be submitted describing transportation activities by individual sites and categories and should include the following information.

a. Commercial and Private Carrier Shipment Activity.

(1) Hazardous and Radioactive Materials Shipments

(a) Total transportation costs by hazard class or radioactive material category (i.e., limited quantity, low specific activity, Type A, Type B and Highway Route Controlled Quantity) and by mode.

(b) Total tonnage by hazard class or radioactive material category and by mode.

(c) Number of shipments by hazard class or radioactive material category and by mode.

(2) Nonhazardous Materials Shipments

(a) Total transportation cost by mode.

(b) Total tonnage by mode.

(c) Number of shipments by mode.

[Note: Household goods shipments should be identified as a separate mode.]

b. Hazardous Waste Manifest Activity.

(1) Total Quantity

(a) Total quantity shipped within each hazard class in gallons, pounds, or as otherwise appropriate.

(b) Identify what quantity (in gallons, pounds, or as otherwise appropriate) mentioned in paragraph 4.3.2(b)(1)(a) was shipped as a hazardous substance in an RQ amount.

(c) Identify what quantity (in gallons, pounds, or as otherwise appropriate) mentioned in paragraph 4.3.2(b)(1)(a) was shipped as a material that was classified as poisonous by inhalation.

(2) Total Number of Shipments

(a) Total number of shipments within each hazard class.

(b) Total number of shipments that contained a hazardous substance.

(c) Total number of shipments containing a material poisonous by inhalation.

4.3.3 Periodic Reports

Periodic reports may be requested by EM-76 on an ad hoc basis through Field Elements or contractors. In order to identify and elevate site transportation activities for recognition at the HQ level, the following information should be provided to EM-76.

Cost Avoidance/Savings
- Pre- and post-audit of Freight Bills
- Other cost avoidance areas by individual sites
- Air vs. LTL usage savings`
- Extended Czarlite savings (accumulative since '93)
- Consolidation
- Household Goods Cost Savings/avoidance

Costs
- Demurrage/Detention Costs
- Staff man-hours/cost

Special Move Negotiations

Permit (annual/one-time)

Claim Activities
- Number of open claims
- Number closed since last report and results

Other Items involving cost avoidance/savings by sites

5. TRANSPORTATION RATES AND SERVICES

5.1 Field Rate Negotiation

For uniformity of rate negotiation, it is recommended that the CZAR-LITE rate base, used on nationwide negotiations by DOE Headquarters, be utilized when negotiating with regional, local, and specific truckload carriers. Copies of this rate base, DOE-190 (rules schedule), and DOE-200 (rate schedule) are available for regional use from EM-76. For assistance or

examples of negotiations specifications, refer to the Transportation Operations Manual and/or contact EM-76.

5.2 Declaring Maximum Value

When rates or classification ratings vary according to a declared value, declare the maximum value applicable to the lowest published rate or rating. (See Section 3.1.5.)

5.3 Declaring Full Value

Rates on a few commodities are based on actual value requiring that actual value be declared. Declaration of full value on shipments of nonradioactive precious metals in certain circumstances is discussed in Section 10.4.2(d).

5.4 Evaluation of Carriers

To receive a copy of the DOE "Motor Carrier Evaluation Program Plan and Program Procedures," contact EM-76.

5.5 Premium Transportation

a. Premium transportation should be used only when the additional cost is clearly justified. When premium transportation (including exclusive use of vehicle) is used for shipments weighing 500 pounds or more, a justification supporting the use of such transportation should be retained in a hard-copy or data file at the contractor site or Field Element location.

b. Exclusive use of a vehicle should be requested only when justified due to:

(1) security, safeguards, programmatic reasons, or regulatory requirements;

(2) the nature of the commodity being shipped; or

(3) a provision in a DOE or Nuclear Regulatory Commission (NRC) Certificate of Compliance, or DOT exemption. Freight bills, or bills of lading covering such shipments, should be annotated to indicate that exclusive use of vehicle was requested and was furnished by the carrier. The ATMS supports audit trail documentation by the Field Element or contractor Transportation Manager for use in decisions involving premium transportation.

5.6 Support of Carrier Requests/Petitions

Heads of Field Elements should indicate a need for transportation service through submission of written statements to the regulatory agency concerned, or by other appropriate procedures regarding carrier requests for operating authority. A copy of each submission and supporting testimony should be forwarded by the Field Element to EM-76 prior to participation in any proceedings.

6. PACKAGING

6.1 Records

In addition to those items listed in paragraph 3.1.2, the shipper should maintain for 3 years or more, a record of each shipment of hazardous materials, hazardous substances, or wastes, or longer as required by applicable law, regulation, or permit.

a. Where applicable, the hazardous materials shipping record should include the following information:

(1) identification of the packaging by model number and serial number (or other appropriate designation) and the number of the Certificate of Compliance;

(2) volume and description of coolant if applicable;

(3) type and quantity of material in each package, and total quantity in each shipment;

(4) date of shipment;

(5) name and address of consignee;

(6) address to which shipment was made, if different;

(7) name and address of carrier; and

(8) applicable shipping papers, manifests, and supporting documentation.

b. In addition to the above information, for each package containing irradiated fissile material, the following information should be retained:

(1) irradiation and decay history of the contents, to the extent appropriate, to demonstrate that nuclear and thermal characteristics comply with appropriate conditions;

(2) any abnormal or unusual condition relevant to radiation safety; and

(3) for Fissile Material, controlled shipment, any special controls exercised.

6.2 Packaging Management

6.2.1 Existing Packagings

To meet packaging inventory information requirements of DOE O 460.2, Field Elements and contractors should furnish EM-76 with the following information on reusable packagings in their inventory that may be used for transporting radioactive and hazardous materials:

a. identification of packaging (name, number, or other unique identifier of the packaging system);

b. classification of packaging (Type A, Type B, or other 10 CFR or 49 CFR designation);

c. quantity in inventory;

d. intended contents (isotopes, quantities, specific activities, weight, form, etc.);

e. dimensions (external and internal);

f. weight of packaging;

g. certification, if any (including expiration date);

h. constraints or conditions of use; and

i. condition of packagings.

The Packaging Management Tracking System (PMTS), an element of the ATMS, should be used to record the above data. If PMTS is not available to the Field Element or contractor, this information can be provided to EM-76 on an annual basis.

6.2.2 New Packaging

To meet information requirements of DOE O 460.2 for the Department's annual Packaging Management Plan, packagings currently under development or planned should be identified and the report should contain essentially the same information as specified in 6.3.1.

6.2.3 Excess Packagings

Information on programmatically excess packagings, newly decertified packagings, and other surplus packagings should be provided to EM-76. EM-76 will serve as a clearinghouse for possible redeployment of these packagings.

6.3 Packaging Development

Input should be provided to EM-76 on an annual basis on any current and forecasted needs for existing, new or improved packagings, or for supporting packaging technology development. EM-76 will use these inputs to develop an annual Packaging Management Plan and a Transportation Research and Development Plan.

7. EXPLOSIVES

For assistance in the transportation of explosives, refer to the Explosives Classification Management Plan, the DOE Explosives Safety Manual, DOE M 440.1-1, DOE-STD-1094-95, and the Transportation Operations Manual. These tools provide guidance for the registration, classification, and shipment of new explosives, and for use of the Interim Hazard Classification Exemption. If these tools are not available through the cognizant Field Element, contact EM-76 for assistance.

8. ACCIDENT/INCIDENT REPORTING

8.1 Contractor Use of For Hire Carrier(s)

The content of the carrier's written report (see 3.1.7, b. and c.) and any other external supporting information or reports, should be included in the contractor occurrence report. The hard copy of any external written documents (e.g., carrier, etc.) should be maintained on file with other information related to the incident and sent to the DOE Facility Representative and Program Manager, who distributes a copy to EM-76.

8.2 DOE Contractor as Private Carrier

In addition to notifying local authorities, the driver should be instructed to notify his or her supervisor, and the emergency response telephone number as soon as practicable after the occurrence.

9. TRANSPORTATION COMPLIANCE EVALUATION/ASSISTANCE PROGRAM (TCEAP)

9.1 Technical Evaluations of Transportation Operations

9.1.1 Technical Evaluation Teams

Technical evaluations should be performed by teams of experienced and qualified individuals. These individuals should be selected on the basis of their proven expertise in the field of transportation or packaging operations. The teams should consist of personnel from DOE Field Elements, contractors, knowledgeable technical specialists. All Headquarters technical evaluations will be led by EM-76 personnel.

9.1.2 Standard Evaluation Criteria

A list of standard criteria to be used in conducting technical evaluations is available from EM-76. Field Elements and contractors may enhance the standard criteria to cover site-specific needs.

9.1.3 Evaluation Scheduling

Evaluations by EM-76 will be scheduled each year. Though periodic evaluations of all contractor facilities is the goal, priority scheduling will be provided on an as-needed basis or when requested by a Headquarters' office or Field Element.

9.1.4 Evaluation Procedures

The following steps should apply to technical evaluations by EM-76.

a. Cognizant Field Element and specific contractor facility to be evaluated will be notified by EM-76 of the evaluation schedule.

b. Evaluation team will be selected. Team will request specific documentation from Field Element and contractor to support evaluation.

c. An entrance briefing will be conducted when the team arrives at facility being evaluated.

d. Exit briefings with the contractor's management will be held at the conclusion of the evaluation to provide findings, concerns, recommended corrective actions, a draft of the evaluation report, and to offer technical assistance.

e. The team should provide a final evaluation report within 30 days after the evaluation is completed. Report will be provided to the appropriate Field Element and the contractor whose facility was evaluated.

f. Respective Field Elements should track corrective actions taken in response to evaluations conducted by EM-76. Cognizant Field Elements should submit a quarterly status report to EM-76 on corrective actions taken to resolve evaluation findings.

9.2 Technical Assistance Services

In addition to providing technical transportation and packaging assistance to Headquarters' offices, Field Elements, and contractors on day-to-day operational questions, EM-76 will also provide the following additional technical assistance:

9.2.1 Conduct Root Cause Analysis

This analysis of deficiencies revealed during an evaluation should determine appropriate corrective actions required.

9.2.2 Develop Corrective Action Plan

The corrective action plan should institute systems, procedures, and other actions necessary to correct identified deficiencies and should include a schedule for completing corrective actions.

9.2.3 Identify Needed Resources

EM-76 can assist Field Elements and contractors in identifying resources necessary to support the corrective action plan and will support their efforts in acquiring such resources.

9.2.4 Provide Lessons Learned Documents

EM-76 will consolidate data and provide a lessons learned document for distribution throughout DOE transportation and packaging organizations. Lessons learned documents will be in accordance with DOE-STD-7501-95.

10. CARGO SECURITY AND HIGH-VALUE MATERIALS

10.1 High-Value Material and Cargo Security

High-value materials not covered under DOE O 5632.1C, PROTECTION AND CONTROL OF SAFEGUARDS AND SECURITY INTERESTS, should be shipped in a manner that will provide cargo security commensurate with their value. These materials include items that have high strategic, intrinsic, or operational value and must be delivered in a timely manner.

10.2 Provision of Protective Services

Before shipping high-value materials, shippers should ascertain that specified protective services can be provided continuously for the shipment until receipt by the consignee. When protective services specified by the shipper are not provided or are inadequate or unsatisfactory, every effort should be made to resolve the matter by local negotiations between the carrier and DOE Element or DOE contractor noticing the deficiency. If the latter, the concerned DOE Element should be kept informed and should assist, upon request, in negotiations with the carrier. If remedial action by the carrier is not satisfactory to the responsible Field Element, the official should send a written summary of the problem to EM-1 for appropriate handling.

10.3 Contingency Information

Depending on the strategic nature and value of materials shipped, each bill of lading should indicate actions to be taken in the event of an emergency and should include, as a minimum, who to notify in event of accident, loss, theft, or any unusual event threatening security of the materials while in transit and how this notification is to be accomplished.

10.4 Packaging and Transporting of Non-Contaminated Precious Metals

10.4.1 Shipping Uncontaminated Precious Metals

Precious metals that are not radioactively contaminated should be shipped in accordance with the provisions of this section.

a. Packaging. Precious metals should be packaged in a strong, tight inner container or spill-proof enclosure to prevent damage to the precious metal or release of package contents. The inner container is then placed with cushioning into an overpack such as a 3-, 5-, or 10-gallon metal can or suitable wooden box. If configuration of the material prohibits use of the aforementioned packaging, a suitable substitution of strong fabrication may be used. The overpack in all packaging configurations should be banded or sealed to deter entry into the package and indicate attempted tampering.

b. Value of Shipments. If an individual shipment or the total per day shipments of a single carrier will exceed $100,000 (current market value), approval to exceed the values specified should be requested from the appropriate Field Element Transportation Manager at least 48 hours before the anticipated shipping date.

10.4.2 Precious Metals Transport

a. The following modes and services should be used to transport precious metals that do not exceed the value limitations established in paragraph 10.4.1(b).

(1) Electronic Signature Service. Air and motor carriers with such services approved by the appropriate Field Element Security Office and Transportation Manager.

(2) Registered Mail. U.S. Postal Service return receipt.

b. If packages exceed size and weight limitations for the modes recommended in paragraph 10.4.2 a. (1) and (2), or exceed the value limitation provided in 10.4.1(b), the following modes should be considered:

(1) existing DOE contract carriers, DOE courier service (e.g., Ross Aviation);

(2) commercial security-type carriers; or

(3) other specialized systems approved by the Field Element Transportation Manager.

c. Shipping Descriptions. For the purpose of preparing bills of lading and air waybills, nonradioactive precious metals should be classed as "METALS, NOT OTHERWISE INDEXED (NOI)." Radioactive contaminated precious metals should be shipped in full compliance with applicable regulations governing radioactive shipments.

d. Insurance. Full value should be declared when the shipment is made by modes approved under paragraph 10.4.2(b)(2).

10.5 Endorsement on Bills of Lading for Rail Shipments

For shipments requiring escort personnel, one bill of lading may be prepared for both the shipment and transportation of escort personnel. In such cases, the maximum number of escort personnel should be shown and the following notation should be placed directly below the number:

> "Carriers will make collection by filing a single bill covering freight and service charges, for the carriage of up to (insert maximum number) attendants."

This is not to preclude, where appropriate, use of Government Transportation Requests, SF 119, in providing transportation of escort personnel.

11. REFERENCES

a. DOE O 210.1, PERFORMANCE INDICATORS AND ANALYSIS OF OPERATIONS INFORMATION, of 9-27-95, which establishes policy for applying mandatory health and safety standards, including the Motor Carrier Safety Regulations of the U.S. Department of Transportation, Federal Highway Administration.

b. DOE O 232.1, OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION, of 9-25-95, which establishes policy on reporting occurrences in DOE operations.

c. DOE O 440.2, AVIATION SAFETY, of 9-25-95, which establishes aviation safety policy to ensure that DOE and its contractor aviation operations maintain an operating standard at least equivalent to that maintained by commercial U.S. air carriers.

d. DOE O 460.1A, PACKAGING AND TRANSPORTATION SAFETY, of 10-2-96, which establishes the packaging and transportation safety requirements for various categories of hazardous materials, substances, and wastes.

e. DOE O 440.1, WORKER PROTECTION MANAGEMENT FOR DOE FEDERAL AND CONTRACTOR EMPLOYEES, of 9-30-95, which establishes policy for health and safety of employees in DOE operations.

f. DOE O 1330.1D, COMPUTER SOFTWARE MANAGEMENT, of 5-18-92, which establishes Departmental policies and procedures for computer software management.

g. DOE O 5700.6C, QUALITY ASSURANCE, of 8-21-91, which establishes DOE policy and sets requirements for implementing and maintaining plans and actions to assure quality achievement in DOE programs.

h. DOE-STD-7501-95, DEVELOPMENT OF LESSONS LEARNED PROGRAM, which provides a framework to build or modify a Lessons Learned Program and a common language for sharing Lessons Learned information.

i. DOE-HDBK-7502-95, AN EASY-REFERENCE GUIDE TO IMPLEMENTING THE DOE LESSONS LEARNED STANDARD, which provides step-by-step instructions for implementing the Lessons Learned Standard and examples of best practices from existing Lessons Learned Programs.

11.1 Sources of Material Transportation Regulations

Principal sources of Federal regulations pertaining to transportation of DOE materials, including hazardous materials (particularly radioactive), hazardous substances, and hazardous and mixed wastes, are listed below.

a. DOT Regulations. 49 CFR, Parts 100-199, Subchapters A-C, "Hazardous Materials Regulations," and Parts 350-399, "Motor Carrier Safety Regulations," provide requirements applicable to shippers and carriers.

b. NRC Regulations.

(1) 10 CFR, Part 71, "Packaging of Radioactive Material for Transport, and Transportation of Radioactive Material Under Certain Conditions," prescribes Federal standards applicable to licensee shippers of nonexempt quantities of radioactive materials.

(2) 10 CFR, Part 73, "Physical Protection of Plants and Materials," prescribes shipment standards.

(3) 10 CFR, Part 110, "Export and Import of Nuclear Equipment and Materials," prescribes licensing, enforcement, and rulemaking procedures and criteria under the Atomic Energy Act for the export and import of nuclear material and equipment.

c. U.S. Department of Health and Human Services Regulations. 42 CFR, Part 723, provides the listing of infectious substances.

d. U.S. Postal Service Regulations.

(1) Publication 52, "Acceptance of Hazardous or Perishable Articles," prescribes applicable postal regulations.

(2) "The Private Express Statutes," implemented in 39 CFR, Parts 310 and 320, prescribes requirements for, and restrictions on, the use of private express companies for express mail and shipments.

e. U.S. Environmental Protection Agency Regulations. 40 CFR, Parts 260-281 designates the types of hazardous materials which are regulated, as well as requirements for emergency planning and community "right-to-know" programs. Part 302 contains the regulations applicable to hazardous substances.

f. U.S. Customs Service Regulations. 19 CFR and Public Law 95-242, "Import/Export of Nuclear Materials."

g. Interstate Commerce Commission Regulations. As amended by the Interstate Commerce Commission Termination Act of 1995, the ICC is abolished and replaced by the Surface Transportation Board. Reference the ICA and the ICCTA and 49 CFR, Parts 387, 1035, 1043, 1051, 1150-1174, and 1312 which prescribe requirements for carrier financial responsibility, rail/motor bills of lading, minimum insurance limits, licensing procedures, and tariff filings and related documents.

h. DOE Regulations. 10 CFR, Part 835, Occupational Radiation Protection; Part 871, Air Transportation of Plutonium; and Part 961, Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste.

i. Federal Information Resources Management Regulations. 41 CFR, Chapter 201, which is the primary regulation for use by Federal executive agencies, as applicable, in their management, acquisition, and use of certain Federal information processing resources.

j. Surface Transportation Board. Refer to references for Interstate Commerce Commission Regulations and Interstate Commerce Act.

k. Department of Labor Regulations. 29 CFR Part 1910.120, “Hazardous Waste Operation and Emergency Response” provide standards for protecting workers at clean up sites.

l. State laws and regulations. Laws and regulations in various States in which carriers will travel may have additional requirements that may be applicable or used as guidance for the shipment of materials.

11.2 General Transportation Acts and Regulations

The following transportation acts and regulations, in addition to regulations of the Federal agencies listed in 11.1, assign responsibilities, establish requirements, and prescribe procedures for transportation.

a. Interstate Commerce Act. 49 U.S.C., Subtitle IV, as amended by the Interstate Commerce Commission Termination Act of 1995, Title I, Subtitle IV, Part A, authorizes the Surface Transportation Board to regulate rail and household goods rates, rules, and practices of carriers engaged in interstate commerce. Part B covers provisions for Motor Carriers, Water Carriers, Brokers, and Freight Forwarders.

b. Cargo Preference Act of l954. 46 U.S.C. 1241 and 49 U.S.C. 1517 state requirements governing the use of ocean transportation by Government agencies.

c. Federal Property and Administrative Act of l949, as amended. (Public Law l52, 81st Congress, 63 Stat., 377) assigns responsibilities for transportation services in Civil Government agencies to the General Services Administration (GSA) but recognizes certain exemptions granted the Atomic Energy Commission.

d. Hazardous Materials Transportation Act (49 U.S.C. 5101 et seq.) and Hazardous Materials Transportation Uniform Safety Act of 1990 (Public Law 101-615, November 16, 1990) define regulatory and enforcement authority of the Secretary of Transportation to protect the nation against the risks inherent in the transportation of hazardous materials.

e. Federal Property Management Regulations. 41 CFR, Parts 101 et seq., prescribes the regulations on transportation and traffic management required to implement GSA's responsibilities under the Federal Property and Administrative Act of l949.

f. DOE Federal Property Management Regulations. 41 CFR, Part 109-40, prescribes transportation and traffic management regulations for those areas of DOE operations exempted under the Federal Property and Administrative Act of l949.

g. Federal Acquisition Regulations. 48 CFR, Chapter I, Parts 1-99, issued under the joint authorities of Administrator of General Services Administration, the Secretary of Defense, and the Administrator of the National Aeronautics and Space Administration in accordance with the Office of Federal Procurement Policy Act of 1974, as amended. Provides regulations for use by all Federal agencies in the acquisition of supplies and services, including transportation factors to be considered in procurement actions.

h. DOE Acquisition Regulations. 48 CFR, Parts 942.14 and 947 supplement Part 47 of the Federal Acquisition Regulations regarding transportation in the procurement cycle.

i. U.S. Air Force Regulation 76-38. Joint military regulation, "Military Airlift—Request Submission, Requirements Submission, Space Assignment and Allocation Procedures," provides regulations governing use of military airlift.

11.3 Other Related Reference Material

Several private and Government agencies, other than those listed, have printed publications or standards that either set forth certain of the above regulations, in full or in part, or provide guidance in connection with some facet of transportation of hazardous materials. Publications applicable solely to foreign commerce are also available. These publications are helpful for use in daily operations. Several of these publications are not complete restatements of the regulations. Reference must be made to the Code of Federal Regulations or other appropriate authority for the actual and complete requirements for packaging and transportation of hazardous materials, including radioactive and fissile materials. Many of the publications listed below, especially concerning tariffs, are reissued and updated periodically.

a. "IATA Restricted Articles Regulations," published periodically by the International Air Transport Association, 1115 Mansfield Street, Montreal 113, Quebec, Canada.

b. "Technical Instructions for the Safe Transport of Dangerous Materials by Air," published periodically by the International Civil Aviation Organization of Montreal, Quebec, Canada. Subscriptions available through Intereg Publishing, 5724 North Pulaski Road, Chicago, IL, 60646.

c. "Regulations for the Safe Transportation of Radioactive Materials, Safety Series No. 6," l985 revision as amended in 1990, and the advisory material of the same dates found in Safety Series No. 37, issued by the International Atomic Energy Agency; Vienna International Centre, Post Office Box 100, A-1400, Vienna, Austria. Available from Unipub, Inc., Post Office Box 433, New York, NY, 10016.

d. "Official Air Transport Restricted Articles Tariff and Circular," Air Transport Association of America; published periodically by Airline Tariff Publishers, Inc.; 1825 K Street, NW; Washington, D.C.; 20006.

e. "ATA Hazardous Materials Tariff," published periodically by American Trucking Association, 2200 Mill Road, Alexandria, VA, 22314.

f. United States Tariff Commission, "Tariff Schedules of the United States Annotated," Superintendent of Documents, Government Printing Office, Washington, D.C., 20402.

g. U.S. Department of Commerce, International Trade Commission, "Export Administration Regulations," Superintendent of Documents, Government Printing Office, Washington, D.C., 20402.

h. "International Maritime Dangerous Goods Code," governing the international maritime transportation of dangerous goods, published by the International Maritime Organization, London, England.

i. "Dangerous Goods Regulations," governing the international air transport of dangerous goods, published by the International Air Transport Association, Montreal, Canada.

j. National Motor Carrier Freight Classification, NMFC-100, published by the American Trucking Association, Alexandria, Virginia.

k. Uniform Freight Classification UFC-100, published by the National Railroad Freight Committee, 222 South Riverside Plaza, Chicago, IL, 60606-5945.

l. Office of Management and Budget (OMB) Circular A-130, Management of Federal Information Resources, of 6-25-93, which establishes policy for the management of Federal information resources.

m. NRC Regulatory Guide 7.10, "Establishing Quality Assurance Programs for Packaging Used in the Transport of Radioactive Material," 1986; provides information on elements needed to develop, establish, and maintain a quality assurance program acceptable to the NRC for packages to transport radioactive materials.

11.4 Non-Government Standards Bodies

EM strongly supports the use of voluntary technical standards, where applicable, in carrying out DOE activities. This view supports the DOE position as articulated in the documents noted in paragraphs 11.4e(1) and (2). A significant number of non-government standards (NGS) bodies produce documents that can directly influence DOE transportation programs, including the American National Standards Institute (ANSI); the American Society of Mechanical Engineers (ASME); the American Society for Testing and Materials (ASTM); and the International Organization for Standardization (IOS).

a. DOE O 1300.2A, DEPARTMENT OF ENERGY TECHNICAL STANDARDS PROGRAM, of 5-19-92, sets forth policy, assigns responsibility, and provides requirements for (1) developing and applying Technical Standards in DOE facilities, programs, and projects; (2) participating in non-Government Standards Bodies (NGSBs); (3) establishing a DOE Technical Standards Program; and (4) managing a DOE-wide standards program.

b. Office of Management and Budget-OMB Circular A-119 stresses the importance of using standards within government facilities and directs that activities first attempt to locate and adopt applicable non-Government Standards (NGSs).

12. DEFINITIONS

For the purposes of this Order, the following definitions apply. Note, however, that the following definitions are not intended to define or interpret corresponding terms used in various laws and regulations under the authority of other government agencies. Such terms are defined and interpreted in the context of relevant laws and regulations.

Appraisal (technical evaluation). A documented review of a Field Element, contractor, or facility transportation and/or packaging management discipline performed in accordance with written guidance and criteria to verify by examination and evaluation of objective evidence at the facility and/or operation that applicable elements of the program have been developed, documented, and effectively implemented in accordance with specific requirements, needs, and regulations.

Cargo Security. Physical protection against theft, pilferage, burglary, hijacking, sabotage, and vandalism of DOE cargo and vehicles in transit, including the physical protection of cargo and transportation safeguards.

Carrier. Any person engaged in the transportation of passengers or property as a common, contract, for hire or private carrier, or as a freight forwarder, as those terms are used in Federal statutes and regulations, as amended; or the U.S. Postal Service; or as officers, agents, and employees of such carriers.

Certificate of Compliance. Issued by DOE or the NRC, as appropriate, approving for use, with identified limitations, a specific packaging for quantities of radioactive materials exceeding A1/A2 quantities or for fissile material packaging as defined in 49 CFR 173 and 10 CFR 71.

Consignee. The person designated in the shipping papers to receive the shipment.

Consignor. The person executing the shipping papers and named as such in the shipping papers. The consignor is in every case a shipper.

Containment Requirements. Requirements applicable to the features of a package (e.g., closures, seals, pressure relief devices, package content limits) that reduce or eliminate the probability that material might be accidentally released to the environment during conditions normally incident to transport.

Control Requirements. Operational steps or administrative measures(e.g., speed limit restrictions, temporary road closures, escorts, etc.) taken to reduce the probability or consequence of a credible accident or incident.

Controlled Access. Roadways will be deemed to have controlled access if they are provided with either temporary or permanent physical access control barriers. Examples of physical barriers include fences, DOE- or contractor-controlled guard gates, and security road blocks. Passive barriers, such as signs, do not provide controlled access.

Communication Requirements. The requirements for communication, including package markings and hazard warning labels, vehicle placarding, and shipping documents that identify the material being transported and the hazards associated with the materials.

Complex-wide Lessons Learned Program. DOE and contractor organizational lessons learned programs sharing information to improve performance.

CZAR-LITE. The name of the Zip-Code based rate schedule DOE acquired from the Southern Motor Carrier Association. It is used in negotiations with Less Than Truckload motor carriers to determine rates charged to DOE and its contractors.

Exclusive Use of Vehicle. A service whereby a transport vehicle is assigned for the sole use of a specific consignor, loaded only by that consignor, and unloaded only by the consignor or consignee. The carrier does not load any other consignor's freight in the vehicle and expedites delivery of the vehicle to the consignee.

Field Elements. All DOE activities that are not located at the headquarters at Germantown, Maryland or Washington, D.C.

Government Aircraft. Any aircraft used exclusively by a Government agency in carrying out noncommercial operations. Title 49 of U.S.C. 1301(36) defines "government aircraft" as follows:

> "Government aircraft" means an aircraft used exclusively in the service of any government or of any political subdivision thereof, including the government of any State, Territory, or possession of the United States, or the District of Columbia, but not including any government-owned aircraft engaged in carrying persons or property for commercial purposes."

Hazardous Materials. All hazardous materials, hazardous substances, and hazardous wastes, as defined in the DOT Hazardous Materials Regulations (Title 49 CFR) and the Environmental Protection Agency regulations (Title 40 CFR).

Headquarters Elements. Secretarial Offices and Secretarial Support Officers (SSOs) located at Washington, D.C. and Germantown, Maryland.

High-Level Waste. The highly radioactive waste material that results from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid

waste derived from the liquid, that contains a combination of transuranic waste and fission products in concentrations requiring permanent isolation.

High-Visibility Shipments. Those shipments, determined by the sponsoring Secretarial Officer, in coordination with the appropriate DOE Field Element and concerned stakeholders, to warrant special arrangements during the time in transit.

Irradiated Reactor Fuel. (Also called spent nuclear fuel.) Nuclear reactor fuel 27previously used as part of a fuel assembly to sustain nuclear fission in a self-supporting chain reaction which contains more than 2×10^4 curies and is in excess of 100 grams in net weight, exclusive of cladding or other structural or packaging material and has a dose rate exceeding 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding.

Lessons Learned. A "good work practice" or innovative approach that is presented as an example to promote repeat application. It may also be an adverse work practice or experience that is presented as an example to avoid recurrence.

Materials. Any material, nonhazardous or hazardous, including hazardous substances, and hazardous and mixed wastes, or articles that require transportation to, from, or between DOE facilities and for which DOE pays or reimburses transportation charges. (See Hazardous Materials definition above.)

Off-site. That portion of any DOE or contractor site to which the general public has unlimited access, including a public roadway.

On-site. Any area within the boundaries of a DOE site to which access is continuously controlled.

Originator. An individual or group that prepares a consignment of material for transport (see Consignor and Shipper).

Package. The packaging and its contents.

Packaging. The assembly of components necessary to ensure regulatory compliance. It may consist of one or more receptacles, absorbent materials, spacing structures, thermal insulation, radiation shielding, and devices for cooling or absorbing mechanical shocks. The conveyance, tie-down system, and auxiliary equipment may sometimes be designated as part of the packaging.

Packaging Technology. All technology underlying the design, development, testing, and operation of DOE materials packaging systems. Its elements include: generic design concepts and components with potential for future systems applications; maintenance and

benchmarking of test facilities; activities related to increased understanding of materials and their applications to package design; characterization of authorized package contents; risk and accident analysis methods; environmental impact analysis methods; standards development; technical investigations into adequacy of regulations and need for revision of regulations; development and application of computer codes for design and system analysis; development and application of data bases; and supporting research in the physical, chemical, mathematical, and engineering sciences.

Precious Metals. For the purposes of DOE O 460.2, precious metals are defined as gallium, gold, iridium, osmium, palladium, platinum, rhodium, ruthenium, silver, or any combination of these metals.

Premium Transportation. The transport of any commodity between two points by any method other than the most economical practical means. When complying with all applicable laws, rules, regulations, and security requirements, transportation requirements are specific and are not considered "premium."

Protective Service. Measures taken by commercial carriers upon written request to provide physical protection for shipments, in addition to the protection furnished under the requirements of normal common carrier activity.

Quality. The degree to which an item or process meets or exceeds the user's requirements and expectations.

Quality Assurance. A planned and systematic pattern of actions necessary to provide adequate confidence that the item or product conforms to established operational, functional, and technical requirements.

Radioactive Material. Any material having a specific activity greater than 0.002 microcurie per gram (uCi/g).

Reportable Quantity (RQ). The quantity specified in column 3 of the appendix (Table 1, Hazardous Substances Other Than Radionuclides and Table 2, Radionuclides) to the Hazardous Materials Table of 49 CFR 172.101 for any material identified in column 1 of the appendix.

Shipment. Any offsite transportation of any materials and equipment, involving activities such as packaging, loading, marking and labeling and placarding, where applicable; cargo securement; preparation of shipping documents; and tendering the package to the carrier or transporter.

Shipper. The organization and/or person who offers a shipment to a carrier for transportation. (See also Originator and Consignor.)

Site. An area of land that contains a DOE facility or facilities, which is either owned or leased by DOE or the Federal Government. The land may be divided by public rights-of-way.

Specific Activity. See 49 CFR, Part 173.403.

Transportation Management. All functional activities related to the planning, direction, selection, purchase, and use of transportation services efficiently, effectively, and economically while assuring full compliance with applicable international, Federal, State, Tribal, and local regulations, DOE policy, and good business management practices.

Transfer. Any onsite transportation of materials, other than intrabuilding movements, involving activities such as packaging, loading, securing, marking, labeling, placarding, cargo security, and documentation as appropriate in addition to the actual transportation of the material by any transport vehicle.

Transport Vehicle. Any conveyance (motorized or towed vehicle, railcar, aircraft, boat, barge, or seagoing vessel) used for the transportation of DOE materials.

Transportation. Inbound and/or outbound shipment of materials from one point to another using a transport vehicle.